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2. That the translator responsible for the attached translation is well acquainted with the German and English languages.

3. That the attached is, to the best of RWS Group Ltd knowledge and belief, a true translation into the English language of the accompanying copy of the specification filed with the application for a Utility Model in Germany on February 2, 2004 under the number DE 20 2004 002 438 U1 and the official certificate attached thereto.

4. That I believe that all statements made herein of my own knowledge are true and that all statements made on information and belief are true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the patent application in the United States of America or any patent issuing thereon.

For and on behalf of RWS Group Ltd

The 14th day of July 2008

(19) Federal Republic of Germany
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(12) # Utility Model Specification

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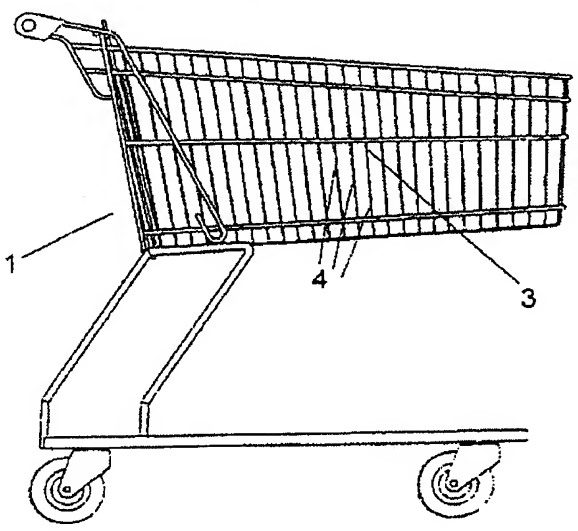
The following details have been taken from the documents submitted by the Applicant

(54) Title: **Shopping cart or transport container**

(57) Main claim: Shopping cart or transport container, characterized in that the surface of the shopping cart (1, 2) or transport container is composed completely or partially of hydrophobic or superhydrophobic material.



Description

The invention relates to a shopping cart or transport container in its broadest sense.

A large proportion of the shopping carts or transport containers in use have a surface made of zinc-plated, chrome-plated or painted metal. The so-called basket, that is to say the region in which the transported items, for example the purchased goods, are placed, consists of an interwoven structure of round metal bars. There are a small number of plastic shopping carts in existence. To achieve a sufficient degree of stability for the basket, the basket consists of plastic bars which are more solid than the metal bars.

As a result of use, shopping trolleys or transport containers are subject to soiling, making cleaning necessary at certain intervals.

For reasons of food hygiene regulations, shopping carts or transport containers in which foods is transported must be cleaned only with water without the addition of solvents. To increase the cleaning action of the water, the water is sprayed at a high temperature onto the regions to be cleaned using so-called steam jets. Depending on the degree and nature of the soiling, mechanical assistance in the form of brushing is additionally required.

On the one hand, this cleaning method requires a high degree of effort; on the other hand, this method achieves the desired result only when the cleaning is performed on shopping carts or transport containers made of metal. In the case of shopping carts or transport containers made of plastic, the conditions for cleaning are even more difficult since there are crevices at the junction points between the individual plastic bars and contaminating matter becomes deposited

therein. The fact that the bars in plastic shopping carts are more solid than the metal bars results in long crevices. When cleaning plastic shopping carts or transport containers, these long crevices at the junction points between the bars again require special cleaning, which further increases the effort involved.

It is an object of the invention to provide a shopping cart or transport container made of metal or plastic in which the cleaning effort is reduced.

This object is achieved by the characterizing features of claim 1.

The underlying consideration was that a hydrophobic surface of the shopping cart or transport container, this surface additionally having a so-called nanostructure, in most cases does not give the contaminating matter sufficient purchase to adhere firmly. Such a surface then has so-called superhydrophobic properties.

Contaminating matter which nevertheless remains clinging to the dry surface can then be removed easily and virtually without trace with normal running water. The water itself here drips off the surface virtually without trace and in the process takes up the contaminating matter adhering to the surface and transports this matter away.

Such a surface is described in WO 96/04123 and can be used in a novel and inventive way to reduce the cleaning effort required for shopping carts.

With regard to shopping carts having a basket made of plastic, an economically expedient use in the food sector is possible for the first time, since it is only

with the present invention that the specific problem of firmly adhering dirt in the corners of the bar junction points is eliminated.

If the shopping cart is exposed to rain, the cleaning is performed by the rainwater itself.

A further consideration was that pathogens such as fungi or bacteria which adhere to a shopping cart can be transferred from there to food situated within such a shopping cart.

For fungi to be able to develop, the fungal spores must first germinate. The fungal spores require moisture for this germination. Here, as a result of its additional nanostructure, the hydrophobic or superhydrophobic surface in a shopping cart according to the invention has a twofold action against pathogens. The pathogens or fungal spores are washed off during each cleaning operation or by rainwater, and since all the water runs off from the surface of the shopping cart without a trace, the moist environment necessary for germination or survival is not available to pathogens.

The use according to the invention of the hydrophobic or superhydrophobic surface results in a shopping cart having the additional property of not providing an environment in which pathogens can survive.

The invention will be explained below with reference to two drawings.

Figure 1 shows a customary shopping cart made of steel, and
figure 2 shows a shopping cart made of plastic.

In the case of both shopping carts 1, 2, the surface is designed to be hydrophobic or superhydrophobic. The hydrophobic or superhydrophobic property of the surface can be achieved in the case of the steel shopping cart by coating with an appropriate material. This coating may be applied to the shopping cart either during the primary production process or at a later time, for example during an overhaul.

It is preferable for only the basket 3, which consists of a multitude of metal bars 4, to be equipped with a hydrophobic or superhydrophobic surface. The remaining regions of the shopping cart which cannot come into contact with the food remain without a specially treated surface.

In the case of the plastic shopping cart 2, the hydrophobic surface may have already been produced by appropriate production methods. In the case of conventionally produced plastic shopping carts, that is to say ones produced without a hydrophobic surface, a subsequent coating is likewise possible.

The basket 5 of the shopping cart 2 consists of comparatively solid bars 6. At the junction points of a number of bars 6 (exemplified by 7 in the example shown), there are angled regions at the transitions to the bars, in which regions contaminating matter stubbornly settles in the case of normal surfaces. It is precisely in these regions that the hydrophobic or superhydrophobic surface according to the invention is particularly advantageous.

The invention can be applied to any type of transport container in which the easy cleaning of contaminating matter provides an advantage. Examples of such

transport containers are cases, baskets or folding boxes used particularly for food shopping or storage.

The advantages of easy cleaning can equally also be applied to all other sectors in which transport containers are liable to soiling and are then intended to be easy to clean again.

Protective Claims

1. Shopping cart or transport container, characterized in that the surface of the shopping cart (1, 2) or transport container is composed completely or partially of hydrophobic or superhydrophobic material.

2. Shopping cart or transport container according to claim 1, characterized in that the hydrophobic surface additionally comprises a nanostructure.

3. Shopping cart or transport container according to claim 1 or 2, characterized in that the hydrophobic or superhydrophobic surface is formed during the production process of the shopping cart (2) or transport container.

4. Shopping cart or transport container according to claim 1 or 2, characterized in that the hydrophobic or superhydrophobic surface is formed by subsequent treatment of an existing shopping cart (1) or transport container.

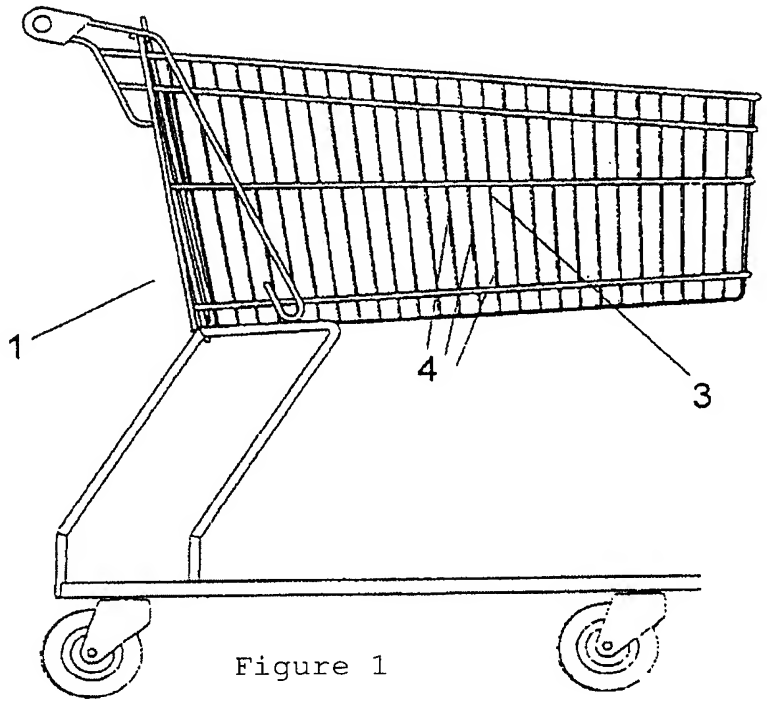


Figure 1

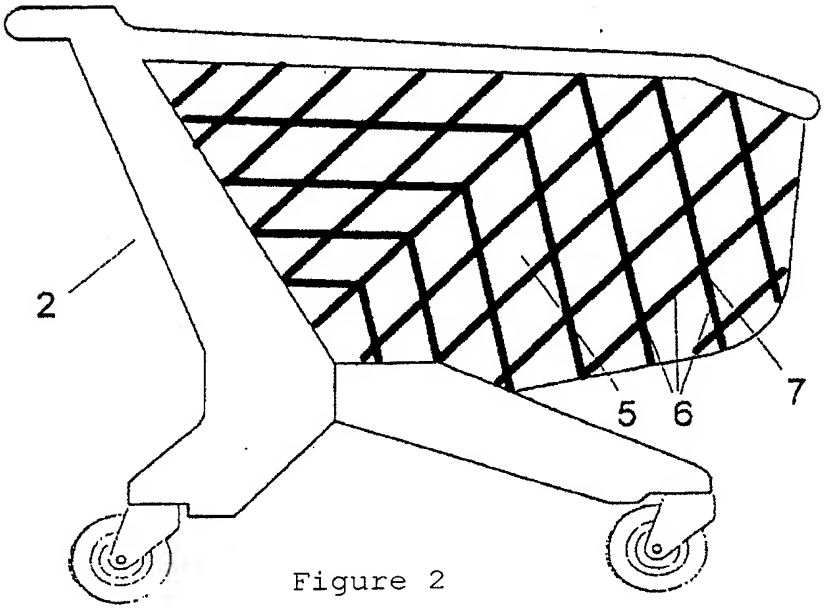


Figure 2

Appended drawings